What is claimed is:

1. A method of making homogenous LCT-epoxy polymers with HCT-oligomers having a dielectric strength of at least 1.2 kV/mil comprising:

grafting at least one functionalized organic group onto at least one nano-sized HTC-material to produce HTC-oligomer product;

reacting said HTC-oligomer product with at least one LCT-epoxy resin under sufficient conditions to form a uniform dispersion and an essentially complete co-reactivity of said HTC-oligomer product with said at least one LCT-epoxy resin, wherein a mixture is formed; and

curing said mixture to produce said homogenous LCT-epoxy polymers with HTC-oligomers;

wherein the amount of said HTC-oligomer product to said at least one LCT-epoxy resin comprises a ratio of between 1:4 and 3:1 by weight.

2. The method of claim 1, wherein said at least one nano-sized HTC-material comprises at least one of alumina, silica and a metal oxide.

3. The method of claim 2, wherein said metal oxide is magnesium oxide.

4. The method of claim 1, wherein the grafting said at least one functionalized organic group onto said at least one nano-sized HTC-material is performed by at least one of a silane grafting and a free radical grafting.

5. The method of claim 1, wherein the HTC-oligomer portions of said homogenous LCT-epoxy polymers with HTC-oligomers is 20-50% by weight.

6. The method of claim 1, wherein reacting said HTC-oligomer product with said at least one LCT-epoxy further comprises warming until said mixture is clear.

7. The method of claim 1, further comprising mixing at least one anhydriding agent with at least one of said at least one LCT-epoxy resin and said HTC-oligomer product, wherein said homogenous LCT-epoxy polymers with HTC-oligomers are a homogenous LCT-epoxy anhydride polymers with HTC-oligomers.

8. The method of claim 7, wherein said anhydriding agent is taken from the group consisting of 1-methylhexahydrophthalic anhydride and 1-methyltetrahydrophthalic anhydride.

9. The method of claim 7, wherein said anhydriding agent is approximately 20-40% by weight of said homogenous LCT-epoxy polymers with HTC-oligomers.

10. The method of claim 1, further comprising mixing at least one vinyl agent with at least one of said at least one LCT-epoxy resin and said HTC-oligomer product, wherein said homogenous LCT-epoxy polymers with HTC-oligomers are a homogenous LCT-epoxy vinyl polymers with HTC-oligomers.

11. The method of claim 10, wherein said vinyl agent is p-vinylphenylglycidylether.

12. The method of claim 10, wherein said vinyl portion is approximately 4-16% by weight of said homogenous LCT-epoxy polymers with HTC-oligomers.

13. The method of claim 1, wherein said mixture is added to an electrical insulator as a coating before curing.

14. A method of making homogenous LCT-epoxy polymers with HTC-oligomers having a dielectric strength of at least 1.2 kV/mil coated on at least one electrical insulator comprising the steps of:

grafting at least one functionalized organic group onto at least one nano-sized HTC-material to produce HTC-oligomer product;

reacting said HTC-oligomer product with at least one LCT-epoxy resin wherein a mixture is formed;

warming said mixture under sufficient conditions to form a uniform dispersion and an essentially complete co-reactivity of said HTC-oligomer product with said at least one LCT-epoxy resin;

impregnating said mixture onto said electrical insulator; and

curing said mixture to produce said homogenous LCT-epoxy polymers with HTC-oligomers;

wherein the amount of said HTC-oligomer product to said at least one LCT-epoxy resin comprises a ratio of between 1:4 and 3:1 by weight.

15. The method of claim 14, further comprising mixing at least one anhydriding agent with at least one of said at least one LCT-epoxy resin and said HTC-oligomer product, wherein said homogenous LCT-epoxy polymers with HTC-oligomers are a homogenous LCT-epoxy anhydride polymers with HTC-oligomers.

16. The method of claim 14, further comprising mixing at least one vinyl agent with at least one of said at least one LCT-epoxy resin and said HTC-oligomer product, wherein said homogenous LCT-epoxy polymers with HTC-oligomers are a homogenous LCT-epoxy vinyl polymers with HTC-oligomers.

17. The method of claim 14, wherein said electrical insulator is a mica/glass insulating tape.

18 Homogenous LCT-epoxy polymers with HTC-oligomers comprising:

at least one HTC-oligomer sub-structure containing at least one nano-sized HTC-material grafted thereto;

at least one LCT-epoxy sub-structure;

a thermal conductivity in the transverse direction of at least 0.50 W/mK and in the thickness direction of at least 0.99 W/mK in an environment of 25°C; and

a dielectric strength of at least 1.2 kV/mil;

wherein said HTC-oligomer sub-structure is organically bonded to said LCT-epoxy substructure;

wherein approximately 20-75 % by weight of said homogenous LCT-epoxy polymers with HTC-oligomers is said HTC-oligomer sub-structure; and

wherein said homogenous LCT-epoxy polymers with HTC-oligomers are substantially free of particle wetting and micro-void formation.

19. The method of claim 18, wherein said at least one nano-sized HTC-material comprises at least one of an alumina, a silica and a metal oxide.

20. The method of claim 18, wherein said homogenous LCT-epoxy polymers with HTC-oligomers contain at least one anhydride, and wherein said anhydride portion is approximately 20-40 % by weight of said homogenous LCT-epoxy polymers with HTC-oligomers.

21. The method of claim 18, wherein said homogenous LCT-epoxy polymers with HTC-oligomers contain at least one vinyl, and wherein said vinyl portion is approximately 4-16% by weight of said homogenous LCT-epoxy polymers with HTC-oligomers.

22. The method of claim 18, wherein said homogenous LCT-epoxy polymers with HTC-oligomers are integrally formed with at least one electrical insulator.